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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/490,116	01/24/2000	Kristoffer Ptasinski	3660-9	6743

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Nixon & Vanderhye PC
1100 North Glebe Road 8th Floor
Arlington, VA 22201-4714

EXAMINER

DAVIS, TEMICA M

ART UNIT	PAPER NUMBER
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2681

DATE MAILED: 03/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/490,116

Applicant(s)

PTASINSKI ET AL.

Examiner

Temica M. Davis

Art Unit

2681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 1/7/04.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9 and 10 is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-8 is/are rejected.
- 7) ☒ Claim(s) 4 and 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 1/7/2004 have been fully considered but they are not persuasive.

Regarding claim 1, applicant argues that Agahi-Kesheh fails to disclose determining a specific amount of electrical energy consumed from the battery, but rather discloses only detection and prevention of saturation of a power amplifier. Applicant further argues that Agahi-Kesheh fails to disclose a controller that controls an output power level of a communication device by generating a digital control signal for a power amplifier to monitor the digital control signal and to determine a specific amount of electrical energy consumed from the battery.

In regards to these arguments, the examiner disagrees. Agahi-Kesheh discloses a power amplifier (115) that is powered by a battery (117) (col. 6, lines 13-20 and col. 7, lines 34-36). Agahi-Kesheh discloses that there is a direct relationship between the voltage level of the battery and the output power of the power amplifier. Specifically, if the power of the battery is diminished, the output power of the amplifier is also diminished (col. 3, line 54-col. 4, line 3). As shown in col. 8, lines 12-48, a digital signal processor (DSP), which reads on the claimed controller, controls an output power level of the communication device by generating a reference digital control signal (319). The DSP is programmed to define this reference signal to cause the power amplifier to draw up to a predefined current threshold I_{safe} in order to avoid saturation of the amplifier

Art Unit: 2681

control loop (col. 8, lines 30-34). This digital reference signal is also monitored by the DSP as evidenced by the fact that it monitors the current drawn by the power amplifier, and once I_{safe} is reached, the DSP must not increase the digital reference signal beyond the I_{safe} value.

As stated above the voltage of the battery is related to how much output power the amplifier has. Agahi-Kesheh links this voltage of the battery to the I_{safe} value for the amplifier (col. 8, lines 12-20). Agahi-Kesheh further teaches that $Power = Voltage \times Current$, and for any given voltage of the battery, the current drawn by the power amplifier can be monitored in order to ascertain whether or not the battery is nearing saturation (col. 8, lines 20-27). This passage reads on determining a specific amount of electrical energy consumed from the battery.

Regarding claim 2, applicant argues "why would it be obvious to combine Agahi-Kesheh with Baranowski since Agahi-Kesheh is concerned with power amplifier saturation prevention and not obtaining desired current levels for charging the battery". However, as stated above, the saturation of the power amplifier is directly related to the amount of voltage of the battery and since voltage is inversely proportional to the current, it would be feasible to obtain desired current levels for powering the battery in Agahi-Kesheh in order to prevent saturation of the amplifier.

Regarding claim 3, the examiner is not interpreting the I_{safe} value as the reference digital control signal. A distinction between these values has been made above. Further, the claim language only requires that the predetermined consumption values (i.e., I_{safe} values) be associated with different values of the digital control signal.

Art Unit: 2681

They are associated because the digital control signal is a value set by the DSP which does not exceed the I_{safe} value (col. 8, lines 40-45).

Regarding claims 6 and 7, in response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Further, references are being supplied which teach the polynomial functions for battery consumption. See Atwater et al, U.S. Patent No. 5,372,898, col. 5, lines 25-41. See McShane et al, U.S. Patent No. 5,821,756, col. 4, line 58-col. 5, line 3. See Champlin, U.S. Patent No. 4,912,416, col. 5, lines 27-42.

Based on the above remarks, the claims stand rejected as set forth below.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

Art Unit: 2681

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 3 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Agahi-Kesheh, U.S. Patent No. 6,430,402.

Regarding claim 1, Agahi-Kesheh discloses a portable multi-band communication device comprising a power amplifier, a battery for supplying power to the power amplifier (col. 6, lines 11-20), a controller arranged to control an output power level of the communication device by generating a digital control signal for the power amplifier to monitor the digital control signal (col. 7, lines 34-58), to determine a specific amount of electric energy consumed from the battery from the monitored digital control signal (col. 8, lines 12-48).

Regarding claim 3, Agahi-Kesheh discloses a portable multi-band communication device as in claim 1, further comprising a memory operatively connected to the controller is adapted to store a set of predetermined consumption values associated with different values of the digital control signal (col. 8, lines 28-48 and col. 9, lines 18-28).

Regarding claim 8, Agahi-Kesheh discloses a portable multi-band communication device as in claim 1, wherein the device is a mobile telephone employing TDMA or W-CDMA (col. 4, lines 63-67).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2681

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Agahi-Kesheh in view of Baranowski et al (Baranowski), U.S. Patent No. 5,613,229.

Regarding claim 2, Agahi-Kesheh, discloses a portable multi-band communication device as in claim 1. Agahi-Kesheh, however fails to disclose the device comprising a D/A (digital-to-analog) converter operatively connected to the power amplifier, and arranged to receive, as an input, the digital control signal, convert the digital control signal into an analog control signal and provide the analog control signal to the power amplifier.

Baranowski discloses this limitation (col. 8, line 51-col. 9, line 2).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Agahi-Kesheh with the teachings of Baranowski for the purpose of obtaining desired current levels for charging the battery (Baranowski, col. 8, line 51-col. 9, line 2).

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Agahi-Kesheh.

Regarding claim 6, Agahi-Kesheh discloses a portable multi-band communication device as in claim 3 described above. Agahi-Kesheh, however, is silent as to how the predetermined consumption values are represented. The examiner contends, however,

that such a polynomial representation is well known in the art. Therefore, at the time of invention, it would have been obvious to implement such polynomial representation since such a technique is used in conjunction with battery consumption values.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Agahi-Kesheh as applied to claim 1 above, and further in view of Rosenthal, U.S. Patent No. 5,838,140.

Regarding claim 7, Agahi-Kesheh discloses a portable multi-band communication device as in claim 1.

Agahi-Kesheh, however fails to disclose the device further comprising a graphical display wherein a controller is arranged to calculate an estimated remaining battery capacity by subtracting the determined consumption of electric energy from a previous value of remaining battery capacity, and wherein the controller is arranged to visually indicate the calculated estimated remaining battery capacity on the graphical display.

In a similar field of endeavor, Rosenthal discloses a portable telephone with a battery consumption technique.

Rosenthal further discloses a graphical display wherein a controller is arranged to calculate an estimated remaining battery capacity by subtracting the determined consumption of electric energy from a previous value of remaining battery capacity, and wherein the controller is arranged to visually indicate the calculated estimated remaining battery capacity on the graphical display (col. 3, line 59-col. 4, line 3 and col. 4, line 44-col. 5, line 4).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Agahi-Kesheh with graphical interface taught in Rosenthal for the purpose of indicating to the user how much battery life is remaining in order to give the user enough time to handle the present call appropriately (such as hang up, hurry the present conversation, or begin to apply an external charging power to the depleting battery in order to complete the conversation, etc.).

Allowable Subject Matter

8. Claims 4 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter: Regarding claims 4 and 5, prior art fails to suggest or render obvious a communication device having a controller used to perform the multiple functions as described.

10. Claims 9 and 10 are allowed.

11. The following is a statement of reasons for the indication of allowable subject matter: Regarding claim 10, prior art fails to suggest or render obvious storing a set of

Art Unit: 2681

predetermined consumption values providing an association between different amounts of electric charge consumption and respective values of a digital control signal.

Regarding claim 10, it is indicated allowable based on its dependence from allowable claim 9.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Temica M. Davis whose telephone number is (703) 306-5837. The examiner can normally be reached Monday through Friday (alternate Fridays) from 9:00am-3:00pm.

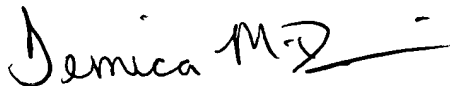
Art Unit: 2681

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Erika Gary can be reached on (703) 308-0123. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

Temica M. Davis
Examiner
Art Unit 2681

TMD
March 16, 2004



TEMICA M. DAVIS
PATENT EXAMINER


ERIKA GARY
PATENT EXAMINER